Application No. 09/646,790   Docket No. 200-19
Amendment
Response to Office Action dated April 29, 2004

REMARKS

The foregoing amendments and these remarks are in response to the Office Action dated April 29, 2004. This response is accompanied by a request for retroactive extension of time of three months, and authorization to charge Deposit Account No. 50-0951 the appropriate fees therefor.

At the time of the Office Action, claims 9-23 were pending in the application. Claims 16, 17, and 23 were withdrawn from consideration. In the Office Action, the drawings were disapproved. The specification was objected to for failing to provide proper antecedent basis for the claimed subject matter. Claim 19 was rejected under 35 U.S.C. §112, first paragraph. Claims 9-11, 14, 15, and 18-20 were rejected under 35 U.S.C. §103(a). The objections and rejections are set out in more detail below.

I.   Objections to Drawings

The drawings were disapproved because they were alleged to introduce new matter. The original disclosure was stated to support that "an inkjet printer with two or more reservoir bottles with various fluid, the reservoir bottles are mechanically formed in different ways and that the insertion of a bottle at a place assigned to another bottle is mechanically hindered." The Office Action asserted that this statement was contradicted with the proposed Figure 2 because the two reservoir bottles appeared to be identical to each other. The proposed change to Figure 2 was made to show that the two bottles were different, with the top right-hand corner of the left-hand bottle having been altered. Applicant thus does not understand this rejection. Nevertheless, a further amendment is made to the drawings to further differentiate the two bottles. Acceptance of the amended drawings is respectfully requested.

II.   Objections to Specification

The specification was objected to for failing to provide proper antecedent basis for the claimed subject matter. In particular, support for the "means to delete" in claim 19 was required. Applicant has herein amended claim 19 to recite that the information stored in the memory "is

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deleted". This finds support in claim 6 as originally filed in the PCT application. Applicant has also amended the specification herein to comply with the wording of claim 6 as originally filed. Withdrawal of the objection to the specification is respectfully requested.

III.   Objections to Claims

The numbering of the claims was objected to as not being in accordance with 37 CFR §1.126, as claims 21 and 22 were misnumbered. The Office Action stated that misnumbered claims 21 and 22 have been renumbered 22 and 23 respectively.

IV.   Claim Rejections under 35 U.S.C. §112

Claim 19 was rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description because the "means" recited in claim 19 was deemed to be new matter. Claim 19 and the specification are duly amended herein to more closely comply with the wording of claim 6 as originally filed. Withdrawal of the rejection is thus respectfully requested.

V.   Claim Rejections on Art

Turning now to the rejections on art, claims 9-11, 14, 15, and 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,342,042 to Cruz-Uribe et al. ("Cruz-Uribe") in view of U.S. Patent No. 6,019,461 to Yoshimura et al. ("Yoshimura") and U.S. Patent 6,375,301 to Childers et al. ("Childers"). Claims 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Cruz-Uribe and Childers, and further in view of U.S. Patent No. 4,432,005 to Duffield et al. ("Duffield").

Cruz-Uribe relates to an ink-jet printer having an intermediate container, and a sensor to detect the level of ink in the intermediate, or secondary, container. The Cruz-Uribe system uses an intermediate container so that the output flow rate from the intermediate container can be high enough to purge the ink jet print heads, while the intermediate container is filled at a much lower rate and pressure. The system of Cruz-Uribe does not teach that the quantity of fluid in the primary ink container is known, nor does Cruz-Uribe detect the quantity of fluid drawn from the reservoir

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bottle. To the contrary, the intermediate container is associated with a level sensing mechanism 14 to sense the ink level in the intermediate container only. The system can then refill the ink in the intermediate container from the primary ink container when desired. The printer of Cruz-Uribe only detects a low quantity of ink in the primary container when the level in the intermediate container does not refill, and thus when both the primary container and the intermediate container are low in ink.

Yoshimura has a replaceable cartridge having a readable memory including indications as to the type of ink, etc., and does not teach the use of bottles of ink. The Yoshimura system also has a CPU and can count number of dots printed, and hence amount of ink remaining. There is no teaching or suggestion in Yoshimura of using an intermediate container. Further, the cartridge used incorporates a ROM memory that includes data indicative of the type of ink provided in the cartridge. The ROM memory is read by the CPU to determine if the ink cartridge is suitable for use with the printer. The provision of a ROM memory on the cartridge is expensive, and not cost-effective for the user.

Childers relates to an ink jet printer having a replaceable cartridge, and again does not teach the use of an intermediate container. Childers does not teach the use of an externally visible label, but rather memory elements 20 and 28 on the cartridge that can be read by the microprocessor. Childers discusses prior art that can have a bar code memory, in the context of storing ink parameters in a memory. The ink parameters taught in Childers are those such as drop generator driver frequency, ink pressure and drop charging values, and are not used as test criteria to determine if the ink is suitable for use in the printer.

With regard to claim 20, none of the cited prior art references teaches the use of two exchangeable reservoir bottles, each being filled with different fluid.

Even if the references were combined, a person having ordinary skill in the art would not arrive at a printer having the features of amended claims 9 and 20. Applicant has amended claims 9 and 20 herein to recite that the sensor senses the quantity of fluid drawn from the reservoir bottle to sense depletion of ink in the reservoir bottle, and that the computer compares this to the previously known quantity of fluid to generate the "reservoir bottle empty" signal. Additionally,

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claims 9 and 20 recite that the printer can continue to run for a period of time to allow the reservoir bottle to be exchanged. None of the cited prior art references addresses running the printer after a "reservoir bottle empty" signal for a sufficient period of time to allow for the reservoir bottles to be exchanged. Cruz-Uribe can run the printer for a short period of time after the primary ink container is empty, but the intermediate container in Cruz-Uribe is very small, and the level in the intermediate container is already depleted before the printer notes that the primary container is empty. This does not give the advantage that printing can continue during exchange of the reservoir bottles.
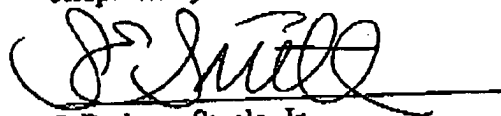
For the foregoing reasons, the independent claims are believed patentable and in condition for allowance. The dependent claims are also believed allowable because of their dependence upon an allowable base claim, and because of the further features recited.

VI. Conclusion

Applicant has made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. Nevertheless, Applicant invites the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicant respectfully requests reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

Date: 10/29/04

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